

AMENDMENTS TO THE CLAIMS

1-72. (Cancelled)

73. (Currently Amended) A method of forming a thermal barrier coating on a surface of a component having cooling holes, the method comprising:

forming masking pins in the cooling holes by injecting a liquid elastic body into each of the cooling holes, and by thereafter hardening the liquid elastic body in the cooling holes, wherein the hardening of the liquid elastic body includes volumetric shrinkage of the liquid elastic body, and wherein the cooling holes are formed in the surface of the component such that the cooling holes extend to an air passageway slot formed in the component, each of the cooling holes having a diameter that is larger than a width of the air passageway slot; and

forming the thermal barrier coating on the surface of the component by spray coating after the forming of the masking pins,

wherein an injection amount of the liquid elastic body is adjusted so that a surface of the elastic body injected into each of the cooling holes protrudes above the surface of the component when the liquid elastic body is injected into the cooling holes, and so that the masking pins after hardening and shrinking by about 10% in volume do not protrude above the surface of the component.

74. (Previously Presented) The method according to claim 73, wherein the cooling holes extend into the component from a surface of the component without passing entirely through the component.

75. (Previously Presented) The method according to claim 73, wherein the component is a combustor transition piece of a gas turbine and the cooling holes are made in an internal periphery surface of a wall constituting the combustor transition piece.

76. (Previously Presented) The method according to claim 73, wherein the masking pins are comprised of a material having elasticity so as to be resistant to blasting, heat resistance so as to be able to endure heat caused by spray coating, stripping easiness so as to be entirely removable from the cooling holes after the forming of the thermal barrier coating, and adherence

and wetness so as to prevent a thermal barrier coating material from accumulating on the masking pins.

77. (Previously Presented) The method according to claim 73, wherein the masking pins are comprised of an elastic body of silicone rubber.

78. (Previously Presented) The method according to claim 73, wherein the liquid elastic body comprises liquid silicone rubber, and wherein the filling of the cooling holes with the liquid elastic body comprises injecting the liquid silicone rubber into each of the cooling holes, and wherein the hardening of the liquid elastic body comprises hardening the liquid silicone rubber in the cooling holes.

79. (Currently Amended) A method of forming a thermal barrier coating on a surface of a component having cooling holes, the method comprising:

forming masking pins in the cooling holes by injecting a liquid elastic body into each of the cooling holes, and by thereafter hardening the liquid elastic body in the cooling holes, wherein the hardening of the liquid elastic body includes volumetric shrinkage of the liquid elastic body, and wherein the cooling holes are formed in the surface of the component such that the cooling holes extend to an air passageway slot formed in the component, each of the cooling holes having a diameter that is larger than a width of the air passageway slot;

blasting the surface of the component so as to coarsen the surface of the component; and forming the thermal barrier coating on the surface of the component by spray coating after the forming of the masking pins and the blasting of the surface of the component,

wherein an injection amount of the liquid elastic body is adjusted so that a surface of the elastic body injected into each of the cooling holes protrudes above the surface of the component when the liquid elastic body is injected into the cooling holes, and so that the masking pins after hardening and shrinking by about 10% in volume do not protrude above the surface of the component.

80. (Previously Presented) The method according to claim 79, wherein the cooling holes extend into the component from a surface of the component without passing entirely through the component.

81. (Previously Presented) The method according to claim 79, wherein the component is a combustor transition piece of a gas turbine and the cooling holes are made in an internal periphery surface of a wall constituting the combustor transition piece.

82. (Previously Presented) The method according to claim 79, wherein the masking pins are comprised of a material having elasticity so as to be resistant to blasting, heat resistance so as to be able to endure heat caused by spray coating, stripping easiness so as to be entirely removable from the cooling holes after the forming of the thermal barrier coating, and adherence and wetness so as to prevent a thermal barrier coating material from accumulating on the masking pins.

83. (Previously Presented) The method according to claim 79, wherein the masking pins are comprised of an elastic body of silicone rubber.

84. (Previously Presented) The method according to claim 79, wherein the liquid elastic body comprises liquid silicone rubber, and wherein the filling of the cooling holes with the liquid elastic body comprises injecting the liquid silicone rubber into each of the cooling holes, and wherein the hardening of the liquid elastic body comprises hardening the liquid silicone rubber in the cooling holes.

85. (Previously Presented) The method according to claim 73, further comprising:
chamfering the thermal barrier coating around the cooling holes with the masking pins remaining in the cooling holes after the forming of the thermal barrier coating.

86. (Previously Presented) The method according to claim 79, further comprising:
chamfering the thermal barrier coating around the cooling holes with the masking pins remaining in the cooling holes after the forming of the thermal barrier coating.

87-88. (Cancelled)